

“(A) involve—

“(i) an innovative technology that is not yet commercially available; or

“(ii) available technology in an innovative application that maximizes energy efficiency and sustainability;

“(B) have the greatest potential for testing or demonstrating new technologies or processes; and

“(C) ensure active student participation in the project, including the planning, implementation, evaluation, and other phases of the project.

“(3) **CONDITION.**—As a condition of receiving a grant under this subsection, an institution of higher education shall agree to submit to the Secretary, and make available to the public, reports that describe the results of the projects carried out under paragraph (1).

“(d) **AWARDING OF GRANTS.**—

“(1) **APPLICATION.**—An institution of higher education that seeks to receive a grant under this section may submit to the Secretary an application for the grant at such time, in such form, and containing such information as the Secretary may prescribe.

“(2) **SELECTION.**—The Secretary shall establish a committee to assist in the selection of grant recipients under this section.

“(e) **ALLOCATION TO INSTITUTIONS OF HIGHER EDUCATION WITH SMALL ENDOWMENTS.**—Of the amount of grants provided for a fiscal year under this section, the Secretary shall provide not less 50 percent of the amount to institutions of higher education that have an endowment of not more than \$100,000,000, with 50 percent of the allocation set aside for institutions of higher education that have an endowment of not more than \$50,000,000.

“(f) **GRANT AMOUNTS.**—The maximum amount of grants for a project under this section shall not exceed—

“(1) in the case of grants for energy efficiency improvement under subsection (b), \$1,000,000; or

“(2) in the case of grants for innovation in energy sustainability under subsection (c), \$500,000.

“(g) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated such sums as are necessary to carry out this section for each of fiscal years 2008 through 2012.”

#### SEC. 277. **WORKFORCE TRAINING.**

Section 1101 of the Energy Policy Act of 2005 (42 U.S.C. 16411) is amended—

(1) by redesignating subsection (d) as subsection (e); and

(2) by inserting after subsection (c) the following:

“(d) **WORKFORCE TRAINING.**—

“(1) **IN GENERAL.**—The Secretary, in cooperation with the Secretary of Labor, shall promulgate regulations to implement a program to provide workforce training to meet the high demand for workers skilled in the energy efficiency and renewable energy industries.

“(2) **CONSULTATION.**—In carrying out this subsection, the Secretary shall consult with representatives of the energy efficiency and renewable energy industries concerning skills that are needed in those industries.”

#### SEC. 278. **ASSISTANCE TO STATES TO REDUCE SCHOOL BUS IDLING.**

(a) **STATEMENT OF POLICY.**—Congress encourages each local educational agency (as defined in section 9101(26) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(26))) that receives Federal funds under the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq.) to develop a policy to reduce the incidence of school bus idling at schools while picking up and unloading students.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to

the Secretary, working in coordination with the Secretary of Education, \$5,000,000 for each of fiscal years 2007 through 2012 for use in educating States and local education agencies about—

(1) benefits of reducing school bus idling; and

(2) ways in which school bus idling may be reduced.

#### TITLE III—CARBON CAPTURE AND STORAGE RESEARCH, DEVELOPMENT, AND DEMONSTRATION

##### SEC. 301. **SHORT TITLE.**

This title may be cited as the “Carbon Capture and Sequestration Act of 2007”.

##### SEC. 302. **CARBON CAPTURE AND STORAGE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM.**

Section 963 of the Energy Policy Act of 2005 (42 U.S.C. 16293) is amended—

(1) in the section heading, by striking “**research and development**” and inserting “**and storage research, development, and demonstration**”; and

(2) in subsection (a)—

(A) by striking “research and development” and inserting “and storage research, development, and demonstration”; and

(B) by striking “capture technologies on combustion-based systems” and inserting “capture and storage technologies related to energy systems”; and

(3) in subsection (b)—

(A) in paragraph (3), by striking “and” at the end;

(B) in paragraph (4), by striking the period at the end and inserting “; and”; and

(C) by adding at the end the following:

“(5) to expedite and carry out large-scale testing of carbon sequestration systems in a range of geological formations that will provide information on the cost and feasibility of deployment of sequestration technologies.”; and

(4) by striking subsection (c) and inserting the following:

“(c) **PROGRAMMATIC ACTIVITIES.**—

“(1) **ENERGY RESEARCH AND DEVELOPMENT UNDERLYING CARBON CAPTURE AND STORAGE TECHNOLOGIES AND CARBON USE ACTIVITIES.**—

“(A) **IN GENERAL.**—The Secretary shall carry out fundamental science and engineering research (including laboratory-scale experiments, numeric modeling, and simulations) to develop and document the performance of new approaches to capture and store, recycle, or reuse carbon dioxide.

“(B) **PROGRAM INTEGRATION.**—The Secretary shall ensure that fundamental research carried out under this paragraph is appropriately applied to energy technology development activities, the field testing of carbon sequestration, and carbon use activities, including—

“(i) development of new or improved technologies for the capture of carbon dioxide;

“(ii) development of new or improved technologies that reduce the cost and increase the efficacy of the compression of carbon dioxide required for the storage of carbon dioxide;

“(iii) modeling and simulation of geological sequestration field demonstrations;

“(iv) quantitative assessment of risks relating to specific field sites for testing of sequestration technologies; and

“(v) research and development of new and improved technologies for carbon use, including recycling and reuse of carbon dioxide.

“(2) **CARBON CAPTURE DEMONSTRATION PROJECT.**—

“(A) **IN GENERAL.**—The Secretary shall carry out a demonstration of large-scale carbon dioxide capture from an appropriate gasification facility selected by the Secretary.

“(B) **LINK TO STORAGE ACTIVITIES.**—The Secretary may require the use of carbon di-

oxide from the project carried out under subparagraph (A) in a field testing validation activity under this section.

“(3) **FIELD VALIDATION TESTING ACTIVITIES.**—

“(A) **IN GENERAL.**—The Secretary shall promote, to the maximum extent practicable, regional carbon sequestration partnerships to conduct geologic sequestration tests involving carbon dioxide injection and monitoring, mitigation, and verification operations in a variety of candidate geological settings, including—

“(i) operating oil and gas fields;

“(ii) depleted oil and gas fields;

“(iii) unmineable coal seams;

“(iv) deep saline formations;

“(v) deep geological systems that may be used as engineered reservoirs to extract economical quantities of heat from geothermal resources of low permeability or porosity; and

“(vi) deep geologic systems containing basalt formations.

“(B) **OBJECTIVES.**—The objectives of tests conducted under this paragraph shall be—

“(i) to develop and validate geophysical tools, analysis, and modeling to monitor, predict, and verify carbon dioxide containment;

“(ii) to validate modeling of geological formations;

“(iii) to refine storage capacity estimated for particular geological formations;

“(iv) to determine the fate of carbon dioxide concurrent with and following injection into geological formations;

“(v) to develop and implement best practices for operations relating to, and monitoring of, injection and storage of carbon dioxide in geologic formations;

“(vi) to assess and ensure the safety of operations related to geological storage of carbon dioxide; and

“(vii) to allow the Secretary to promulgate policies, procedures, requirements, and guidance to ensure that the objectives of this subparagraph are met in large-scale testing and deployment activities for carbon capture and storage that are funded by the Department of Energy.

“(4) **LARGE-SCALE TESTING AND DEPLOYMENT.**—

“(A) **IN GENERAL.**—The Secretary shall conduct not less than 7 initial large-volume sequestration tests for geological containment of carbon dioxide (at least 1 of which shall be international in scope) to validate information on the cost and feasibility of commercial deployment of technologies for geological containment of carbon dioxide.

“(B) **DIVERSITY OF FORMATIONS TO BE STUDIED.**—In selecting formations for study under this paragraph, the Secretary shall consider a variety of geological formations across the United States, and require characterization and modeling of candidate formations, as determined by the Secretary.

“(5) **PREFERENCE IN PROJECT SELECTION FROM MERITORIOUS PROPOSALS.**—In making competitive awards under this subsection, subject to the requirements of section 989, the Secretary shall give preference to proposals from partnerships among industrial, academic, and government entities.

“(6) **COST SHARING.**—Activities under this subsection shall be considered research and development activities that are subject to the cost-sharing requirements of section 988(b).

“(7) **PROGRAM REVIEW AND REPORT.**—During fiscal year 2011, the Secretary shall—

“(A) conduct a review of programmatic activities carried out under this subsection; and

“(B) make recommendations with respect to continuation of the activities.